Georges Chebly

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Education

University of Pennsylvania May 2027
MS Robotics, GRASP Lab

University of Massachusetts Amherst - Honors College May 2025
BS Mechanical Engineering, Minor Computer Science, **GPA: 3.96/4.00**

Relevant Coursework: Computer Systems Principles (C), Data Structures, Dynamics, Intro to Electrical Engineering, Statistics and Probability, System Dynamics, Design of Assemblies, Advanced Robotics, Math for Robotics, Controls and Optimization

Engineering Skills: Prototyping, SolidWorks, Ansys, 3D Printing, Additive Manufacturing (FDM), Machining
Computer Skills: Python, Matlab, Java, C, R, LaTeX, Microsoft Suite, International Computer Driving License(ICDL)
Languages: Arabic (Native), French (Fluent), English (Fluent)

Work Experience

Hardware Robotics Engineering Intern – QSS AI & Robotics June 2025 – July 2025

- Designed and fabricated a 3D-printed tampering machine as part of a robotic automated system that makes coffee in less than one minute
- Set up the electronic system of the tampering machine using a linear actuator driver and an ESP32 microcontroller
- Assisted in a computer vision project by collecting on-site data and developing a structured Excel sheet for efficient data extraction and model training

Undergraduate Teaching Assistant – Statics and Dynamics Jan 2023 – May 2025

- Helped 300+ students through emails and weekly office hours (5 hours/week)
- Proctored 10+ exams, including accommodations for students with disability services
- Corrected and graded homework assignments and provided feedback

Software Robotics Intern - Open Avenues, Outrider Technologies Feb 2023 – Apr 2023

- Created a ROS launch file navigating the robot in a simulated yard and generating a map using LiDAR sensors in RViz and Gazebo
- Established communication between publisher and subscriber nodes over a specific topic
- Successfully wrote nodes to initialize the robot's position and control its motion using the Actionlib library

Leadership & Projects

Strong, Accurate, and Low-Cost Robot Manipulator — Humanoids 2025 **(Published)** [Link] May 2024 – May 2025

- Built a 6-DOF robotic manipulator achieving 1 kg payload capacity at significantly reduced cost
- Designed lightweight cable-driven transmissions to improve speed, safety, and efficiency
- Validated design through kinematic analysis, ensuring accurate and reliable performance

Guide Dog Robot – Capstone Project Aug 2024 – May 2025

- Developing a 15 kg power-efficient guide dog robot with advanced mobility features for Blind and Low Vision individuals
- Calculating the forward and inverse kinematics and inverse dynamics to select actuators (AK80-9)
- Design optimization to fit batteries, cameras, computers, and IMU within the robot's body

Team Leader – UMass Robotics Team Sept 2024 – May 2025

- Managed a team of 10 to set goals and assign tasks, ensuring timely project completion
- Led the development of a humanoid from the torso up using OnShape — 7 DOF Arm, neck and body
- Integrated numerous mechanisms such as belt transmission, capstan drive, link mechanism…

Activities & Interests: UMass 4CCCL, Jiu-Jitsu, Analyzing Stocks & Cryptocurrencies, Soccer, Piano